Podcast: Ultra-Processed Foods (Part 2) Transcript

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Ultra-Processed Foods and Mortality

Doesn't it seem like when it comes to nutrition, there are more opinions than facts to go around? Every day we hear new [music] theories about diets and supplements and best foods to eat. Well, my role is to take the mystery out of good nutrition and look at the science. Welcome to the Nutrition Facts Podcast. I'm your host, Dr. [music] Michael Greger. Today we continue our exploration of ultra-processed foods and we start with the two categories of these foods that have been associated with premature death. Even a small increase in the consumption of ultra-processed foods is associated with an increased risk of developing several diseases. And for each additional daily serving, the risk of dying prematurely may increase by 2%. Are there any babies we'd be throwing out with the bathwater if we avoided ultra-processed foods? Are there any that haven't been associated with disease?

It's such a big category. All we need are studies that break it down. And here we go. The Framingham Offspring Study. Higher consumption of ultra-processed foods is associated with increased risk of cardiovascular disease, but was it because of the burgers or the bagels? The link between ultra-processed foods and disease was largely driven by the ultra-processed meat. The sausage, bologna, salami, hot dogs, and burgers. Breakfast cereals, nearly all of which are ultra-processed, was associated with lower risk, presumably because cereal eating less bacon and eggs. In another US study, this one 30 times larger, researchers came to the same conclusion. The more ultra-processed, the more cardiovascular disease, but which ultra-processed foods? Soft drinks, both regular and diet, and meat, specifically burgers, fried chicken, fried fish, and meat pizza, salty snacks like corn chips and potato chips, and candy.

Ultra-processed food consumption and high blood pressure driven mostly by soda and meat. If we excluded soda and meat, would there still be an association between ultra-processed foods and cardiovascular disease? We can turn to the three big Harvard cohorts, 200,000 people followed for decades, and yet total intake of ultra-processed foods is associated with cardiovascular risk, but that was driven by soda and meat.

Sugar-sweetened beverages and processed red meat, poultry, and fish, like fish sticks. What if we exclude soda and meat? The relationship between ultra-processed foods and cardiovascular disease disappears. So, nutritional advice for cardiovascular health should consider the differential consequences of group-specific ultra-processed foods, and specifically, that means soft drinks and processed [clears throat] meats should be discouraged.

You know what else is an ultra-processed food? Vodka.

Which Ultra-Processed Foods Drive Disease Risk

So, when you look at food processing and cancer risk, if you exclude alcoholic drinks, all of a sudden, the link between processed foods and a number of cancers becomes insignificant, suggesting that it was probably the alcohol driving those associations. Though for colorectal cancer risk, soda and ready-to-eat foods like pizza and ready-to-eat meat, poultry, and fish may also be playing a role. For pancreatic cancer, the association between ultra-processed foods and pancreatic cancer was really more just an association with foods like donuts, cakes, cookies, and meat and meat products. Diabetes. You can see the straight-line increase in diabetes risk with increasing ultra-processed food intake, but not all ultra-processed foods, mostly animal-based products and the pizza category again.

What about mortality? Those with the most ultra-processed food consumption had a higher risk of dying from all causes put together, but it mattered what kinds of foods. Ready-to-eat red meat, poultry, and seafood products had particularly strong associations with mortality.

The worst ultra-processed food when it came to dying prematurely in general, meat, poultry, seafood. The worst when it comes to dying from cancer, meat, poultry, seafood. The worst when it comes to dying from cardiovascular disease, meat, poultry, seafood. The worst when it comes to dying from lung diseases like emphysema, meat,

poultry, seafood. The worst when it comes to dying from neurodegenerative diseases, ice cream. And the worst when it comes to dying from other causes, meat, poultry, seafood.

The bottom line is that the major factors contributing to the harmful influence of ultra-processed foods on mortality are soda and processed meat, including poultry and fish. That's what a systematic review and meta-analysis of all such studies showed. Higher mortality associated with drinking more sugar-sweetened beverages like soda, diet soda, and eating more processed meat, or eating any processed meat at all.

So, the ultra-processed foods problem may really just be a soda and meat problem. There was one ray of sunshine in the study, though. The researchers found one ultra-processed dessert that was associated with lower mortality, dark chocolate.

In the next story, we look at a natural solution to the ultra-processed food problem, something that I talk about in my book that came out, I think, just earlier this year on ultra-processed foods.

[music] Check it out. In two Harvard cohorts, researchers followed about 100,000 men and women for decades, and found that high consumption of ultra-processed foods is associated with dying earlier, which provides support for limiting consumption of certain types of ultra-processed foods for long-term health. In particular, processed meat, poultry, seafood, which generally showed the strongest and most consistent associations with mortality.

So, here the negative life-shortening effects of ultra-processed foods was really mostly talking about the negative life-shortening effects of processed meats like burgers, chicken nuggets, and fish sticks.

But the association between more ultra-processed foods and higher mortality appears to be present even among vegetarians. Yes, plant-based diets, which reduce or avoid eggs, dairy, fish, and other meats, have been linked to a reduced risk of various chronic diseases, including our leading killer, cardiovascular disease.

But that doesn't mean you can live off vegan donuts.

Plant-Based Alternatives as a Possible Solution

Non-ultra-processed plant foods like fruits and vegetables are associated with lower risk of disease, but ultra-processed foods like Oreos and Mountain Dew are associated with higher risks. So, dietary guidelines shouldn't just tell people to cut down on meat and other animal-source foods, but also to cut down on junk. No big surprise. But this is how the paper was reported on. The hidden health hazards of vegan sausages. Vegan fake meats are linked to increase in heart deaths. What?

If you look at the study, meat alternatives only made up 0.2% of their diet. 39.4% of their diet was composed of ultra-processed plant foods, but only about 1/500 of their intake was meat alternatives. The study participants were eating 30 times more pastries.

Aren't those more likely to be the culprit in the relationship between ultra-processed foods and disease? 14 times more french fries and candy, even four times more vodka and other hard liquor. But apparently, there's not a lot clickbait to be had telling people not to eat vodka and cream puffs. You really want to see if meat alternatives were an issue, you'd have to run more granular studies that separate out meat alternatives for analysis.

This study on obesity had an eclectic category of ultra-processed fruits and vegetables that included meat alternatives along with powdered soup and fruit compote. And there was no tie to obesity. The culprits were mostly soda, ice cream, mayonnaise, bologna, fish sticks, and the like.

But ideally, we'd have a study big enough to completely separate out plant-based meats. If only there were some epic study. And indeed, here it is, the EPIC study. More than a quarter million people were followed for more than a decade. Yes, higher consumption of ultra-processed foods increases the risk of cancer and cardiometabolic multimorbidity like cardiovascular disease and diabetes. Yes, but which ultra-processed foods? It's the animal-based ultra-processed foods like processed meat and soda. No associated risk with ultra-processed breads and

cereals or plant-based meat. And when it comes to diabetes, plant-based meats and milks appear to cut the risk of developing diabetes in half. Animal-based products were associated with more than twice the risk. Plant-based alternatives were associated with less than half. The [clears throat] authors concluded that higher consumption of ultra-processed foods may increase the risk of cancer and other diseases, but their data really only show that the consumption of foods of animal origin and soft drinks is associated with such a risk, which is like, duh. Indeed, if you go back and exclude the animal-based foods and sodas, the relationship between ultra-processed foods and these multiple diseases disappears.

So, the only ultra-processed food that appears to be killing people is meat. In that case, instead of being a contributor, plant-based meats may be the solution to the ultra-processed foods problem. The only other ultra-processed study that separated out plant-based meats looked at telomere length, which is used to measure cellular aging. Their study found that a higher consumption of total ultra-processed foods was associated with shorter telomere length, which is a sign of accelerated aging.

However, some subclasses may be associated with longer telomere length, suggesting slower aging. And the class of foods associated with the longest telomeres, vegetarian alternatives, to meat. There have been other population studies on plant-based meats. This one found that those who ate plant-based meat daily appeared to cut the risk of hip fracture in half compared to those eating it less than once a week. School children who eat plant-based meats appeared to have half the odds of being overweight compared to those eating regular meat. And girls who eat more meat start their periods at an earlier age, which may help explain why childhood meat consumption is linked to breast cancer later in life since the earlier you start your period, the higher your lifetime risk. In contrast, those eating plant-based meats appear able to delay the onset of menstruation by 9 months.

But observational studies like these can't ever prove cause and effect. For that, you need interventional trials.

Research on Plant-Based Meats and Health

There have been 10 published up to 2023 and a few more since then. I did a video on the Stanford Swapped Meat Study that showed swapping out a few servings a day of meat for plant-based meat alternatives for 2 months significantly decreased circulating levels of the microbiome toxin TMAO, as well as lowered LDL cholesterol and body weight.

But there have been a about a dozen other studies, including this 4-year-long randomized clinical trial in which people with diabetes and ailing kidneys were randomized to replace half their animal protein intake with an ultra-processed plant meat replacement called TVP. The researchers saw significant improvements in blood sugar control, cholesterol, triglycerides, inflammation, and significant improvements in their kidney function.

I'll cover all these studies. Stay tuned. And if you don't want to wait, I've got a new book out that covers them all, a short peer-reviewed paper that's free to download at c.nf/ultra, and a continuing medical education approved webinar you can watch as well.

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Information about my books, How Not to Die, How Not to Diet, and How Not to Age, is at nutritionfacts.org/books. All proceeds, which I get, are donated directly to charity. And I've got a new book in the publication pipeline, the manuscript for How Not to Hurt on diet and lifestyle approaches to pain management, has been handed in and will be published December 15th.

>> [music] >> I'm going to be doing a series of webinars to feature some of the new research I've discovered. Sign up for a free newsletter at nutritionfacts.org/subscribe to stay updated on when those will be. Nutritionfacts.org is a science-based nonprofit, and everything on the website is free. There are no ads, no corporate sponsorships, no kickbacks. We're strictly noncommercial, not selling anything, just put up as a public service, as a labor of love, as a tribute to my grandmother, whose own life was saved with evidence-based nutrition. We just have like [music] a a Wikipedia-type nonprofit model where everything's free, and we just hope maybe, you know, one in a thousand

people will find it so valuable that they'll kick in a few bucks so we can continue to churn out new content to help you and your family be healthier. Thanks for listening.